CLAIMS

1. A printed circuit board comprising:

a printed wiring board;

a plurality of components mounted on said printed wiring board; and

a high viscosity, electrically non-conductive filler material covering a region of the printed wiring board having at least one cavity, wherein said filler material substantially covering said cavity such that said covered cavity is substantially inaccessible and that said covered region has a contiguous, contoured surface.

2. The printed circuit board of claim 1, wherein said filler material at least partially infills said cavity.

3. The printed circuit board of claim 1, wherein at least one of said plurality of cavities is between and beneath leads of a component.

4. The printed circuit board of claim 1, wherein at least one of said cavities is between neighboring components mounted on the printed wiring board.

5. The printed circuit board of claim 1, wherein at least one of said cavities is between a component and printed wiring board.

6. The printed circuit board of claim 1, wherein said filler material is thixotropic.

7. The printed circuit board of claim 1, wherein said filler material is an epoxy.

8. The printed circuit board of claim 9, wherein said epoxy is one of the family of Bisphenol-A epoxies mixed with an amine hardner.

9. The printed circuit board of claim 7, wherein said epoxy is a thermally cured epoxy.

10. The printed circuit board of claim 7, wherein said epoxy is a latex based non-electrically conductive epoxy.

11. The printed circuit board of claim 1, wherein said filler material is one of a plurality of different filler materials.

12. A printed circuit board comprising one or more regions having a highly variable and cavitatious surface that is coated with a high viscosity, non-electrically-conductive filler material to provide a contoured, contiguous filler material surface having gradual transitions, wherein said filler material bridges across and at least partially infills cavities in the one or more regions of said printed circuit board.

13. The printed circuit board of claim 12, wherein said filler material is thixotropic.

14. The printed circuit board of claim 13, wherein said filler material is an epoxy.

15. The printed circuit board of claim 14, wherein said epoxy is one of the family of Bisphenol-A epoxies mixed with an amine hardner.

16. The printed circuit board of claim 14, wherein said epoxy is a thermally cured epoxy.

17. The printed circuit board of claim 14, wherein said epoxy is a latex based non-electrically conductive epoxy.

18. A method for preparing a printed circuit board to receive a board-level coating, comprising the steps of:

providing the printed circuit board;

coating selected cavitatious and highly variable regions of said printed circuit board with a high viscosity, non-electrically-conductive filler material, such that said filler material provides a contoured, contiguous surface across said region.

19. The method of claim 18, further comprising:

applying a coating to predetermined portions of said printed circuit board including said region coated with said filler material.